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ABSTRACT

The Physical Therapy Department of Nova Southeastern University (NSU PT) changed its curriculum to problem-based learning, and in conjunction with changes needed new evaluation forms for accreditation and program requirements. The purpose of this practicum study was the development and validation of faculty and course evaluation forms for students at NSU PT. The process began with a literature review and a review of the NSU PT mission, philosophy, and accreditation documents. An internal formative committee survey was conducted, and evaluation forms were developed and validated by the summative evaluation committee of four faculty members. Items with a mean Likert score of 3.5 and above were accepted, and items below this score were reconsidered, redesigned, or excluded. Editorial recommendations were incorporated to make a final product of 5 Likert-scale forms, with 7 to 14 items each, considering affective, behavioral, psychomotor, and cognitive areas with an open-ended comment section. These forms were developed: (1) student self-assessment for the course; (2) student self-assessment for the laboratory; (3) student performance assessment for the clinic; (4) faculty tutor assessment for the course; and (5) faculty tutor assessment for the laboratory work. Recommendations are to implement these forms, conduct a pilot test, and consider longitudinal studies to track curriculum progress and aid in faculty and student development. Five appendixes include NSU PT mission statements, a list of committee members, the formative committee questionnaire, the summative committee questionnaire, and the five forms of the evaluation product. (Contains 3 tables and 24 references.) (SLD)

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DEVELOPMENT AND VALIDATION OF FACULTY AND COURSE EVALUATIONS FOR STUDENTS FOR NOVA SOUTHEASTERN UNIVERSITY PHYSICAL THERAPY PROGRAM

Governance and Management

Gina M. Musolino

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A practicum report presented to Programs for Higher Education

in partial fulfillment of the requirements for the

degree of Doctor of Education

Nova Southeastern University

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Abstract of a developmental practicum report presented to Nova Southeastern University in partial fulfillment of the requirements for the degree of Doctor of Education

DEVELOPMENT AND VALIDATION OF FACULTY AND COURSE EVALUATIONS FOR STUDENTS FOR NOVA SOUTHEASTERN UNIVERSITY PHYSICAL THERAPY PROGRAM

by

Gina M. Musolino

July, 1997

Nova Southeastern University Physical Therapy (NSU PT) transitioned the curriculum to Problem-Based Learning (PBL) and required revision of evaluation forms for accreditation and program requirements. The purpose of this study was the development and validation of faculty and course evaluations for students for NSU PT. The research question addressed was: What are the appropriate and valid contents and design of faculty and course evaluation forms that are representative of PBL for NSU PT?

Procedures used in this developmental methodology to collect data and address these questions included (a) a literature review and review of NSU PT mission, philosophy and accreditation documents, (b) internal formative committee survey, (c) establishment of design and content of the evaluation forms project based on synthesis of procedures a and b, (d) external summative committee validation, (e) data compilation summary, (f) revision of product, and (g) presentation of the product with recommendations for implementation.

Utilizing the procedures, evaluation forms for NSU PBL PT were developed and

validated. Items with a mean Likert score of 3.5 or above, were accepted, items below this score were reconsidered, redesigned or excluded. Editorial recommendations were incorporated and the final product consisted of 5 Likert-scale forms, with 7-14 items considering affective, behavioral, psychomotor, and cognitive areas with an open ended comment section. Recommendations were to implement the evaluation forms product, conduct a pilot test, consider longitudinal studies to track curriculum progress and aid in faculty and student development.

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Chapter 1

INTRODUCTION

Nova Southeastern University (NSU) is a private university offering traditional and non-traditional programs of study from kindergarten through the doctoral level. The Physical Therapy Department is a component of the Health Professions Division at NSU as a result of a recent merger of Nova and Southeastern Universities. The physical therapy program was a new program seeking accreditation from the American Physical Therapy Association (APTA). The program, in the first year, consisted of a traditional curriculum, but in the second year, altered the androgogy to one of Problem-Based Learning (PBL).

Nature of the Problem

Nova Southeastern University's Physical Therapy Program has shifted the overarching androgogical approach of education from traditional methods of instruction to Problem-based Learning (PBL) beginning with the 1995 Fall term. Evaluation of educational programs and curricula is an essential process in professional education, and an accreditation requirement. The problem was current faculty and course evaluation forms required revision, due to the instructional shift to PBL. The revision in forms was required to reflect this PBL process of learning and teaching and for accreditation.

Purpose of the Study

The purpose of this study was the development and validation of faculty and course evaluations for students for Nova Southeastern University Physical Therapy Program (NSU PT). The revision was needed for faculty evaluation forms for student assessment of courses that would reflect Problem-Based Learning (PBL). PBL androgogy is a unique instructional format, requiring a different evaluation form than traditional methods. No lectures occur in PBL, therefore most traditional evaluation forms did not meet the needs

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for PBL evaluation. Curricula of this nature create new demands for the evaluation of the faculty and courses (Hay, 1996).

Significance to the Institution

The Physical Therapy (PT) Program at Nova Southeastern University (NSU) was a developing program seeking accreditation from the American Physical Therapy Association (APTA). The program reached CANDIDACY (APTA, 1996) status with the Commission on Accreditation for Physical Therapy Education (CAPTE). A portion of the Evaluative Criteria, for Accreditation of Education Programs, for the Preparation of Physical Therapists, requires; in Section One, Organization, of the Self Study Report Format the faculty evaluation forms and examples of their use on-site. The former faculty evaluation forms did not reflect Problem-Based Learning (PBL) and were representative of traditional methods of instruction (i.e. lectures).

The feasibility of this study was significant as faculty and course evaluation tools are an accreditation requirement for the CAPTE, Southern Association of Colleges and Schools (SACS), and NSU policy. SACS (1996) delineates in Section III, Institutional Effectiveness, criteria 3.1 Planning and Evaluation: Educational Programs, that a broad based systematic approach to planning and evaluation of teaching, research and service must occur and be appropriate to the institution. SACS guidelines state that the results of these evaluations must be used to improve educational programs, services and operations; and that the institution must develop procedures and guidelines to evaluate educational effectiveness with both quantitative and qualitative data gathering. Evaluation of instructional delivery is one example of this SACS criteria (pp 20-21). This project provided the beginnings of appropriate faculty and course evaluation forms for the PBL curricula for NSU PT.

According to West & Watson (1996), "Problem-based learning strategies can be intricately interwoven into a complex core curriculum to meet accreditation criterion, while at the same time increasing self-directed learning with students" (p 2).

Relationship to Seminar

This practicum was directly related to the Governance and Management seminar in the purview of the principles of structural frameworks. Structural frames are concepts derived from both management and sociology, "emphasizing goals, specialized roles, and formal relationships. Structures---commonly depicted by organization charts----are designed to fit an organization's environment and technology" (Bolman & Deal, 1997, p 13). The Governance structural framework, imposed by accreditation, guides the need for faculty and course evaluation forms, to assist in meeting the organizational goals. The standards and policies determined by CAPTE (1996) and SACS (1996) provide the direction for the need for evaluation assessments.

Considering the human resource framework, according to Bolman and Deal (1997), the process of evaluation is a "basis for helping individuals grow and improve" (p 267). The challenge of accreditation is to keep on "top of large, complex sets of activities; set goals and policies under conditions of uncertainty and attain intellectual grasp of policy issues" (p 277). The evaluation project entailed both the structural and human resource frames.

Relationship to Concentration

The area of concentration was Curriculum Development and Evaluation. The evaluations developed were part of the curriculum review process, an integral portion of program development. One piece of curriculum improvement was the feedback loop of information from formative and summative evaluations. Selecting appropriate items that reflected the department and institutional criteria for effectiveness, was a necessary

component for evaluation and curriculum review (Davis, 1993). In problem-based learning, curricular goals were assessed through several methods, self-assessment, team assessment and faculty/tutor assessment, to provide constructive feedback for improvement (Barrows, 1997).

Research Questions

The research questions for this study were, "What are the appropriate and valid contents of faculty and course evaluation forms, that are representative of problem-based learning (PBL), for Nova Southeastern University Physical Therapy Program (NSU PT)?" and "What are the appropriate and valid design of faculty and course evaluation forms, that are representative of PBL, for NSU PT?"

Definition of Terms

For purposes of this practicum, the following terms were defined.

Appropriate. Items which are suitable for meeting the purpose of course evaluations.

Faculty and course evaluation form. A scannable paper pencil instrument which provides the student consumer the opportunity to assess faculty and course effectiveness in the NSU PT PBL curriculum.

Problem-Based Learning (PBL). PBL is a curriculum innovation characterized by the use of case studies as a vehicle through which small groups of students learn problem-solving skills while simultaneously directing their own acquisition of content knowledge (Albanese & Mitchell, 1993). Upon presentation of a case, students decide how to identify major problems, gaps in their knowledge and skills, and strategies for resolving these gaps. Learning is motivated by a need to resolve problems (Barrows, 1997).

Team teaching. A method of instruction where faculty participate as part of a group in

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facilitating PBL; faculty serve as faculty team leaders, advisors, mentors, tutors and academic coordinators for clinical education for groups of professional students for NSU PT.

Tutor. "Faculty member who facilitates a learning process, guiding rather than directing learning, and being expected to consistently provide constructive verbal feedback regarding both content knowledge and the learning process" (Hay, 1996, p 23).

Valid. The items are appropriate for the course evaluations for NSU PBL PT. Both content and face validity applications were considered. Content validity: the criteria are accurate and timely in both substance and presentation. Face validity: criteria appear to be useful and attractive to the target audience.

Chapter 2

REVIEW OF RELATED LITERATURE

Overview

The literature review provided an overview of the concept and purposes of evaluation, design types and content criteria for evaluation in problem-based learning (PBL). Extensive literary searches were completed for this project, in the ERIC, CINHAL, and Medline databases, electronic search engines and textbooks.

Central to the preparation of professionals is a graduate who has the ability to function in a rapidly changing health care environment. Professionals need to solve problems and make decisions in ambiguous situations. Traditional conceptions of evaluation are frequently based on a process that links assessment tools directly to program goals and objectives. Evaluation forms of this type, focus on achievement of the goals or objectives, but do not begin to examine the process of learning, the experience of students, assessment of whether the goals are worth achieving, or the influence of the implicit curriculum. The evaluation should not be conceived only as whether the goals have been achieved, but the social and cultural context of the educational experience.

Evaluation

Purposes of Evaluation

Student and faculty evaluation, according to Astin (1991), is carried out for the purpose of "supporting the resources and reputational views of excellence and to support certain administrative practices" (p 13). Courts and McInerney (1993) expounded upon the broad picture of assessment, "most consider a useful evaluation not an end unto itself but a means of diagnosing and correcting problems in the teaching/learning process" (p xv). Several

sources concurred that evaluation and assessment should be directly tied to improving instruction and to improving the quality of the lives of students and teachers (Banta, Lund, Black, & Oblander, 1996; Eley & Stecher, 1997). Astin (1991) delineated that assessment of "faculty should enhance their performance as teachers and mentors of students and as contributors to the advancement of knowledge; advancing the educational mission, and the teaching and research functions of the university" (p 4).

Astin further argued the point that the students' perspective is rarely incorporated in evaluation and universities should at least be partially responsive to this perspective. Astin stated that this "almost forces us to tailor make part of our assessment to the particular needs and aspirations of the individual student" (p 40). This readily agrees with Stephen Feldman's (Boyd, 1994) thought of students as customers of education; and Rensis Likert using "survey data to show that 'employee centered' supervisors, who focused more on people and relationships, typically managed higher-producing units than 'job centered' supervisors, who made decisions themselves and dictated to subordinates" (Bowman & Deal, 1997, p 139).

Howard Barrows (1994), related the need for evaluation tools for the faculty, to evaluate the adequacy of their instructional program. Faculty need to know if there are common problems among the students that may reflect inadequacies in the curriculum or the teaching-learning approach that is being used. At McMaster University, students received feedback openly from tutors in small group sessions on an on-going basis, with recurrent formative evaluations. Students participated in self and faculty evaluations on an on-going basis (Bridges & Hallinger, 1995).

The McMaster evaluation system was based on five principles: excerpt from,

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Evaluation of Health Sciences Education Programs (Schmidt, Lipkin, deVries, & Greep, 1993):

> 1. Student performance should be measured against learning objectives. They must evaluate the student's ability to identify and define health problems at an individual and community level.... The student must have the ability to develop the personal characteristics and attitudes required for a career in the health professions. 2. Evaluation methods should be compatible with the learning objectives. Evaluation should be carried out within the framework of problem-solving in which selection, understanding, and integration of concepts from a variety of disciplines are assessed. 3. Evaluation information should come from a variety of relevant sources....self-assessment, peer assessment, and assessment by the tutor and other faculty. 4. Evaluation should be ongoing. Immediate feedback and ongoing evaluation permits the student to identify and correct areas of weakness, thereby strengthening and reinforcing the learning process. 5. Evaluation is a shared responsibility. Students in a self-directed learning program share in the accountability for evaluation. It is not just an assessment imposed and controlled by faculty. (pp 166-169)

Evaluation design criteria

Evaluation of teaching should employ a variety of information sources, one source, in higher education, includes student responses to evaluation questionnaires. Well constructed questions are based on characteristics representative of teaching quality. Methods of phrasing the evaluation questions also determines the reliability and validity of the instrument. Historically, several question forms have been employed to glean faculty and course evaluation feedback. One format, Likert questionnaires, present a continuum for agreement, indicating the respondents' values and attitudes. It was argued that this method does not gather information about the intended purpose, information on the teaching about which the students are responding (Eley & Stecher, 1997). However, in PBL this is one of the intentions of evaluation.

Davis (1993) made the following design recommendations for evaluation questionnaires: using forms that give the students the opportunity to provide quantitative ratings, provision of a numeric rating scale for at least some items, including items that ask

students about the effects of the course, and quantitative measures of overall effectiveness with at least one open-ended item, and finally, keeping the form short. Davis asserted that the use of numeric ratings aid in calculation of comparison over time and brevity of forms is needed due to the numbers of evaluations students may be completing (pp 397-404).

Another alternative evaluation question form is the behaviorally anchored scale, comprising a "description of some performance element to be rated, together with a rating scale in which each scale point is defined (anchored) by a description of some performance instance typical of someone rated at that level" (Eley & Stecher, 1997, p 66). A drawback is the difficulty in generation of scale items and expectation performances for each scale level. Considerable research comparing the two evaluation form design types, Likert, behaviourial anchored scales and others, have received mixed reviews. However, when utilized in the best scenario or intent, the assessment process increases student rapport and facilitates a climate for an educational partnership. Three words, according to Banta et al. (1996, p 291) described why these researchers have been successful with evaluations, trust, authenticity and responsiveness. The evaluations are anonymous and items are conducive to improving the learning process. The dialogue is opened up and responses to feedback are made with discussion, change and/or further explorations with faculty and students.

Evaluation content criteria

Astin (1991) suggested criteria should include student satisfaction in terms of academic advising, quality of instruction, student-faculty contact (p 143) and process assessment, and teaching practices and styles (p 248). Hay (1996) agreed and contended that evaluation form criteria should consider the tutor with the following inclusion factors: "1. The ability to care for students, 2. A knowledge of course structure and teaching philosophy, 3. The

ability to encourage independent thinking and 4. A knowledge of specific medical problems being studied" (p 22).

Davis (1993) suggested, for content evaluation, utilizing items that reflect your department's and institution's criteria of effectiveness, and are within the student's range of judgement and stating each item clearly (pp 397-404). Astin (1991) adjudicated the use of outcome data for evaluation content in both behavioral and affective domains. He suggested evaluating items pertaining to "psychological: values, interests, self-concept, attitudes, beliefs, satisfaction with the university;... and behavioral: leadership and interpersonal relations" (p 45). Astin (1991) further identified other potentially important affective outcomes including, "self-understanding, honesty, maturity, motivation for further learning, understanding of other peoples and societies, self-esteem, social responsibility and even good mental and physical health" (p 56). As health care providers, physical therapists must function in all three domains, cognitive, affective and psychomotor areas, while maintaining their own health. Therefore, it would seem prudent to evaluate all domains. The main limitation of evaluating the results of affective domain information is the students' time required to produce information on a relatively small number of affective outcomes. Astin (1991) best described this as, "instruments have relatively high 'fidelity' with a relatively narrow 'band width'" (p 58). However, this does not appear to be an adequate "excuse" to underutilize affective evaluation measures.

In contrast, Banta et al. (1996), noted specific behaviors that are amenable to change should be captured, students should not be asked to comment on things such as the tutors contemporary knowledge or how prepared students are for advanced courses, as students are not yet privy to make these judgements. Furthermore, the researchers consider

evaluation for the tutor/facilitator, a step further, delineating specific facilitator criteria into four distinctive categories, "genuine concern, encouragement, knowledgeable, approachable and easy to talk to" (p 289). The researchers suggested on the self evaluation level to assess whether or not the learner: "did the readings to prepare, wrote questions/comments pre tutor session, actively participated in tutor exercises and discussions, thought about how readings/case applied to their life and future job" (p 288). These researchers advised for the evaluation of the course that "stimuli (exercise, film, case) were linked well to the objectives, whether the stimuli were well prepared and organized and helped the learner to understand the topic better, and whether there was a good balance between theory and application of the topic" (p 289). Finally, the researchers proposed open comments and suggestions for the evaluation criteria.

These suggestions for appropriate and valid contents and design for faculty and course evaluations were considered for this project. As student perspectives change, so to must the methods and course work offered by universities that wish to remain consumer-oriented in the business of education. This view is supported by Stephen Feldman (Boyd, 1994), former president of NSU, describing the business of academia:

> Growth and expansion will only occur if NSU defines itself as a business, its students as customer and the world of education as the competition. If you manage things well, you will succeed. It doesn't matter whether you're producing widgets or professionals. (p 7)

Research Considerations

Introduction to Research Review

The current literature considers both qualitative and quantitative critical inquiry for evaluation in PBL in health care and law. Pertinent to this project, research reviews were considered in the areas of outcome evaluation, tutor behavior, performance criteria, and

tasks, interviews and focus groups with student consumers and the use of portfolios.

Research Review

Schmidt & Moust (1995), compared student achievement with a causal model of the tutor behaviors influence in the context of PBL. The subjects were 524 undergraduate tutorial groups at the University of Limburg, from 1992-1993. These groups were guided by 261 tutors and Likert scale data was taken following sessions; with correlations drawn in terms of social congruence, subject matter expertise, cognitive congruence, tutorial group functioning, self-study time, intrinsic interest in the subject matter and student achievement.

According to Schmidt & Moust (1995) the results of this study suggested that "subject-matter expertise, a commitment to students' learning and their lives in a personal, authentic way; and the ability to express oneself in a language used by the students are all determinants of learning in a PBL curricula" (p 708). Shortcomings of the study were identified as problems with the students rating the tutor, as students were there to learn and students possessing an implicit theory of effectiveness, for a tutor, which may not be congruent with tutor expectations (pp 708-714).

In another study, in health care education, Hay (1996) investigated whether a 16-item tutor performance evaluation was able to discern a consistent factor structure. The subjects were both occupational therapy (OT) and PT students enrolled in McMaster University, with PBL groups evaluating tutors. During a two year period, 364 evaluations were completed by 60 tutorial groups. Tutor groups were reassigned each term and tutorial size ranged from 7 to 10 students per group. Evaluations were completed pre grade assignment and the response rate was 100% for OT students and 94% for PT

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students. Forms were scored using Likert scale data and factor analyses was completed. This statistical analysis, according to Hay, provided an explanation of the correlation between two or more variables in terms of some underlying construct or factor. The scale was found to have established reliability. Hay utilized the following items for evaluation:

> This tutor: 1. Provided clear insight into the objectives and expectations of the course, 2. Discussed students' expectations of the course, 3. Assisted students in planning to meet course objectives, 4. Encouraged effort and rewarded student contributions, 5. Consistently provided reasonable, constructive, verbal feedback, 6. Was objective in formal student evaluations, 7. Was sensitive to students' learning needs, 8. Displayed concern and empathy for students, 9. Was enthusiastic about educational role, 10. Provided a reasonable degree of student autonomy, 11. Provided a reasonable degree of student autonomy in selecting learning strategies, 12. Communicated clearly with students, 13. Assisted in the development of individuals' communication skills within the group, 14. Facilitated development of student problem solving skills, 15. Effectively assisted students to develop their reasoning skills, 16. Challenged students to develop their knowledge to an appropriate level, 17. Stimulated interest in course content, 18. Assisted the group in determining when an appropriate level of understanding had been reached, and 19. Overall rating of performance. (p 23)

Interestingly, Hay did not tackle the areas of self-assessment nor tutor knowledge, due to the controversy on the ability of a student to adequately evaluate this aspect of the tutor. (Hay, 1996 and Dolmans, Wolfhagen, Schmidt & van der Vleuten, 1994). However, it would seem that if tutors are increasing knowledge, over time, the students would be capable of this aspect of tutor evaluation.

Considering the graduates will work with physical therapists, a study by May, Moran, Lemke, Karst and Stone (1995) surveyed physical therapy clinical educators from 76 clinical sites using the Delphi technique. The educators were asked to identify generic abilities critically important to physical therapy practice. These criteria were then developed into ability-based assessments for the University of Wisconsin-Madison PT program. The impetus for this study came from academic faculty inquiring with the clinical educators about why some students fail to make the transition from didactic

courses to the clinical internship. Generic abilities included the following in rank order: "1. Commitment to learning. 2. Interpersonal skills. 3. Communication skills. 4. Effective use of time and resources. 5. Use of constructive feedback. 6. Problem solving. 7. Professionalism. 8. Responsibility. 9. Critical thinking. 10. Stress management"(p 4). These criteria are in agreement with the mission and philosophy of NSU PT (Appendix A) and the CAPTE standards. The disadvantage, noted by May et al. (1995) was that ability-based assessment of this nature focused more on outcome than content. However this is the direction being demanded by the consumer and employer.

Dolmans et al. (1994) developed an instrument to assess tutor performance in PBL tutorial groups. Subjects consisted of 293 tutors and 18 tutorial group sessions over a 19 week academic year, with students in first through fourth years. The average response rate was 81% and a pilot study, had been performed the prior academic year. Through the pilot study, it appeared the researchers employed a modified Delphi technique, but the researchers never clearly stated. During the pilot, 150 tutors and 100 students were provided a list of 16 tutor behavioral characteristics and asked to rate them as important indicators and whether or not the item was clearly stated. The pilot study resulted in 13 statements: "6 items related to the tutor's task to guide students through the learning process, 4 items about the tutor's content knowledge input and 3 items about the tutor's commitment to the group's learning" (p 551).

The items were presented with the options for the student to rate the tutor as insufficient, neutral, sufficient or not applicable. These numerical ranges were then assigned one of seven qualifications, such as extremely poor, sufficient and very good. In conclusion, the validity and reliability for the 13 item tutor evaluation questionnaire was

found to be evident, with reported reliability coefficients and factor analysis testing. This was generalizable to groups of 10 students, where group sizes were maintained.

These findings compared equivocally with those of Wilkerson, Hafler, and Liu (1992) and Schmidt & Moust (1995), investigating the tutor behaviors which stimulate learning with students. Schmidt & Moust (1995) found that a tutor should use terminology adapted from the students' level of competence; asking questions in a manner the student can understand. The tutor's interest in students' daily lives and personalities also appeared as an important feature of effective tutor behavior. Wilkerson et al. (1992), likewise, concluded that two factors describing the skills perceived as most helpful by both tutors and students, were maintaining positive interactions within the group and providing assistance in getting the work of the group accomplished.

Des Marchais and Chaput (1997), validated and identified 8 specific tutor tasks as part of an undertaking to develop a comprehensive tutor training system at the University of Sherbrooke. The 8 tutor task items were as follows:

> 1. Manage the PBL method, 2. Facilitate the functioning of a small group, 3. Guide the study of specific contents, 4. Favor autonomy, 5. Favor Humanism, 6. Stimulate motivation, 7. Evaluate learning, 8. Collaborate in the administration of the study program. (p 70)

The researchers further defined each criteria into competencies for tutors to complete a self-assessment of their current and expected level for future tutorial functioning. This allowed the tutor to self-regulate, develop and grow as a faculty PBL tutor in a learning community.

Allyson Hadwin (1996), analyzed and interpreted qualitative data from a PBL group in a faculty of medicine, with 29 medical students in both focus groups and interviews. In a semi-structured interview, the researcher gleaned that there seemed to be a distinct

difference between, "going through the motions of PBL and really engaging in PBL" (p 26). The researcher surmised embedding the theory and practice of self-regulation in a community of learners model. In addition to the "normal" concerns of PBL students, not knowing whether or not students have the "right" answer (tolerance for ambiguity) and learning how to manage tutorial group processes; the distinction was evident that the role of the PBL tutor in making the PBL experience useful or not re-emerged in interviews as an important theme. Hadwin (1996) emphasized the following constructs as significant implications for the design of PBL learning environments: "1. Content learning is situated in relevant activities. 2. Knowledge is socially constructed. 3. Expertise is distributed and shared amongst participants. 4. Participants engage in behaviors characteristic of self-regulated learning" (pp 12-13).

Allyson Hadwin (1996) acquiesced with the principles purported by Schmidt et al. (1993) viewing the tutor as an "orchestrator" in the learning community. Hadwin discerned the tutor as employing the following roles, "(a) The tutor strategically employs content and process expertise in the learning practice of the community; and (b) The tutor employs content and process expertise through the strategic use of questioning, feedback and scaffolding" (p 23) in order to be effective as tutors. The facilitator must guide the learning process, not direct the learning. The timing of questioning demands metacognitive activity and feedback needs to relate to both content and process expertise for the learner. Scaffolding, allows for the novice tutor groups, to be given more direction with a gradual development toward total independence in learning (Albanese & Mitchell, 1993).

Although several resources mentioned items to include, only minimal representative samples or examples of PBL faculty and course evaluations were identified in the formal

literature. Courts and McInerny (1993) best summarized the need and purpose for evaluation measures, "If we fail to learn about our students, then we fail to educate them," furthermore "assessments inviting interaction, dialogue, reflection and learning offer us a way to evaluate, respond and promote learning" (pp 49-50). The researchers strongly recommended the portfolio assessment as the clearest, yet most complex, method of individual and curricular evaluation. Beecher, Lindemann, Morzinski and Simpson (1997) also supported the use of faculty portfolios for reflective practice, promotion and development for medical school educators. A customary curriculum vitae format was included but expanded upon with evidence presented in the portfolio, such as peer review, learner evaluations, performance assessment data and evaluative letters.

Review of Literature Summary

At first blush, it appears evaluation of PBL has been explored, but not to an extensive depth. More research is essential to authenticate the type, design and content of evaluation measures in PBL health care education. Evaluation should be an integral part of the learning process and relate to the university mission, philosophy and goals. Evaluation is noted to be an essential component in the curriculum improvement process, as well as the content and design of evaluation measures. Specific criteria for evaluation measures in PBL included, compatibility with the learning objectives and process, assessment of resources and shared responsibility for learning. A plethora of content criteria areas in PBL evaluation have been considered; these included items for advisement, interpersonal relationships skills for students and faculty, consideration of instructional methods and styles, structure and process, philosophy, knowledge, behavioral and affective considerations for students and faculty, tutor roles, and linkage back to the curriculum. These shifts in evaluative measures from faculty to student and from content to process,

reflect the change in the learning process from passive to active, and from teacher directed to learner directed with self evaluation. These educational evaluative measures mirror the changes in the practice environment in health care.

Suggestions from the research for evaluation design criteria, are not nearly as copious as those for PBL content criteria. The design choices included attitude scales, portfolios, open ended questions, interviews and focus groups or some combination thereof and an evaluation that is not too lengthy. Considering some of these aspects for evaluation, while in training, is not unlikely and will aid with student preparation for future practice. This project addressed the issue of development of appropriate and valid content and design of faculty and course evaluation forms, incorporating criteria recommended from the review of literature, for NSU PT PBL faculty and students.

Chapter 3

METHODOLOGY AND PROCEDURES

Criteria Establishment

The objective of this product was to provide evaluation forms for students and faculty for Nova Southeastern University Physical Therapy (NSU PT) that were reflective of Problem Based Learning (PBL). Standards against which the product was measured for the general, content, and design categories, incorporated from the literature review and formative committee, were as follows; six items were considered for the general category, including: (a) The items are appropriate for student self assessment, (b) the items relate to the philosophy and goals of the program, (c) the items are compatible with the learning objectives, (d) the items consider the process of PBL, (e) the items consider resources, and (f) the items are reflective of shared responsibility for learning.

For the content criteria there were ten measurement items: (a) The items are appropriate for faculty evaluations, (b) the items are appropriate for course evaluations, (c) the items consider advisement , (d) the items consider interpersonal relationships and communication skills of both the faculty and students, (e) the items consider instructional methods and styles for students and faculty, (f) the items are representative of the process and structure of PBL for students and faculty, (g) the items consider philosophy and knowledge for students and faculty, (h) the items consider behavioral aspects for students and faculty, (i) the items consider specific tutor roles, and (j) the items consider linkage to curriculum and life long learning. Finally, in the design category there were four criteria items considered: (a) The Likert scale format is suitable for faculty and student evaluations in PBL, (b) the length of the evaluation forms is appropriate, (c) the items provide an opportunity for open-ended responses, and (d) the items are clear in wording and concise.

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Data Gathering and Procedures

Five procedures were implemented to complete this development practicum. First, a review of the literature and review of the NSU and NSU PT Program mission and philosophy statements (Appendix A), and review of accreditation documents, was conducted. The literature review included theoretical topics of PBL methods, as well as applied topics such as development of evaluation forms and sample formats. Further considered were content and design criteria specific for the needs of evaluation in PBL in health care education.

Second, an internal formative committee was gathered and criteria were established for the faculty and course evaluation forms. The criteria were based on the information from the literature review and input from the formative committee. The formative committee consisted of the program director, and four faculty members from Nova Southeastern University. A complete listing of the five participants on the formative committee and their respective affiliation is provided (see Appendix B). The formative committee provided initial feedback in response to an open-ended questionnaire for content and format which was developed (see Appendix C).

Third, a draft of the content and design of the evaluation forms and a questionnaire was distributed to the summative committee to validate the project. This project draft was based on input from the literature review, mission statements of NSU and NSU PT and the input of the formative committee gained through the questionnaire. The external summative committee consisted of four participants with expertise in PBL in PT. The participants and their affiliations are provided (see Appendix B). The questionnaire presented to the summative committee was a Likert scale questionnaire which pertained to

the sections and topics of the evaluation forms of the project developed. The Likert scale questionnaire was provided (see Appendix D) to the committee with a section for open ended comments. The summative committee was sent both the draft of the evaluation forms project and the questionnaire in order to validate the project. The committee members were asked to provide open ended comments on the accuracy and timeliness of the forms, for both substance and presentation of the content of the forms, with their expert review. The summative committee was provided a two week response time, with follow up telephone calls as necessary, to complete the validation process.

Fourth, data was compiled in tables based on the responses to the questionnaire (see Tables 1-3) and the evaluation forms project was revised based upon the summative committee input. Fifth, the faculty and course evaluation forms project was presented to an authority, the Physical Therapy Program Director and Associate Dean, with recommendations for changes and implementation as a result of the questionnaire.

Assumptions

An assumption was made that the expert panels evaluation of the content and format of the faculty and course evaluation forms was reliable and valid. There was an assumption that the experts were able to perform the task accurately. There was an assumption that the subject matter experts were able to establish content and face validity through reviews by the formative and summative committees. It was also assumed that the results of the study were valid for the NSU PT program from an environmental perspective.

Limitations

The product was limited in that it was specific to the needs of NSU PT. Another potential limitation was whether or not the product forms were generalizable to NSU PT due to unique environments.

Chapter 4

RESULTS

Evaluation forms were developed and validated for faculty and course evaluations for students for Nova Southeastern University (NSU) problem-based learning (PBL) Physical Therapy (PT). The product was developed by conducting a literature review and input from a formative committee to determine the appropriate and valid content and design criteria for the evaluation product. Summative and formative committees were utilized to develop and validate the product. The recommendations and changes suggested by the formative committee are shown in Table 1.

Table 1.

Summary of Formative Committee Questionnaire

Item	Responses
1. What items do you consider appropriate for inclusion on faculty and course evaluation forms for utilization at the midterm and final portion of the semesters that reflects PBL?	Team work, self assessment, PBL process, learning issues, management of PBL, group leadership,
2. What type of design do you consider most appropriate for faculty and course evaluation forms which will be reflective of PBL?	Likert scale, Thurstone scale, paper/pencil form, open ended if not too many
3. How many and what type of items should be included in faculty and course evaluations to reflect PBL in a PT curriculum with Master's level students?	Not more than 10-15, no more than 10 per form, both process and content
4. Should more than one type of form be utilized to reflect PBL for faculty and course evaluations in a PT curriculum?	Eval students (self), faculty, team tutor, facilitator, labs, confusing - divide up

(table continues)

Item	Responses
5. What type of evaluation/assessment scale should be utilized in the faculty and course evaluation forms to	Semantic differential, Likert scale, Thurstone, no scale, agree reflect PBL? This is very confusing, an arduous task, good luck, get student input, review other
6. Are there any other considerations that need to be addressed in the faculty and course evaluation forms for PBL in a PT curriculum?	other PBL forms, let me know if you want help

All formative committee suggestions were taken into consideration as the forms were developed. Multiple evaluation forms were necessary to account for all aspects of the program. Therefore, as outlined by the formative committee, the following five evaluation forms were developed: student self assessment for the course and lab, student performance for the clinic, and faculty tutor for the course and lab. Due to the large numbers of students (100 per class) the number of items were kept under 10 in most cases and under 20 for the faculty tutor for the course, as this is the faculty member students spend the most time with in the NSU PBL program. Also, this particular form contained more inclusion criteria items than the others. This accounted for the formative committee's recommendation to keep the number of evaluation items limited in number.

The forms each consisted of Likert scale data and open ended comment section as per the committee's suggestions. Thurstone scales were not incorporated, as the forms only call for one method and the Likert scale was considered less complex and more definitive. All items recommended specifically for appropriate inclusion by the summative committee were incorporated in the evaluation forms project. The forms were designed to be completed in an anonymous fashion as per committee recommendation, to allow for the

student expression without the potential of the evaluation affecting the course grade outcome, due to unforeseen bias.

The changes, recommendations and specific item criteria remarks and editing suggestions are displayed in Tables 2 and 3. The summative committee comprised of four members validated the product. The validation instrument consisted of 10 criteria related to content, 5 criteria for design, and 6 general criteria for evaluation considerations. The rating scale used was (5) strongly agree, (4) agree, (3) no opinion, (2) disagree, and (1) strongly disagree. If at least two of the four summative committee members had judged below a 3 on any item of the content and design validation instrument, the item was reviewed and potentially revised. If there was a mean rating of 3.5 on each item of the validation instrument, the product was validated.

The validation revealed a mean rating of 3.5 or greater on all items, except number 9 in the content area and criteria number 5 in design, both were less than 3.5. These items were addressed with expansion of tutor role criteria and editing of wording, addressing all comments in the open ended results section (Table 3).

Table 2.

Summary Summative Committee Questionnaire

rating scale: *5 = Strongly Agree 4 = Agree 3 = No opinion 2 = Disagree 1 = Strongly Disagree*

	Criteria Statement	Response Numbers				
		5	4	3	2	1
Content						
1.	The items included are appropriate for faculty evaluations	2	2	0	0	0

(table continues)

	Criteria Statement	Response Numbers				
		5	4	3	2	1
2.	The items included are appropriate for course evaluations	0	3	0	1	0
3.	The items consider advisement	0	4	0	0	0
4.	The items consider interpersonal relationships for both faculty and students	2	2	0	0	0
5.	The items consider instructional methods and styles for student and faculty	1	2	0	1	0
6.	The items are representative of the process and structure of PBL for students and faculty	2	1	0	1	0
7.	The items consider philosophy and knowledge for students and faculty	0	3	0	1	0
8.	The items consider behavioral aspects for students and faculty	2	2	0	0	0
9.	The items consider specific tutor roles	0	2	0	2	0
10.	The items consider linkage to curriculum and life long learning	2	2	0	0	0
Design						
1.	The Likert format is suitable for student and faculty evaluations	2	2	0	0	0
2.	The Likert format is suitable for course evals	1	3	0	0	0
3.	The length of the forms is appropriate	2	1	0	1	0
4.	The items provide an opportunity for open ended responses	4	0	0	0	0

(table continues)

	Criteria Statement	Response Numbers				
		5	4	3	2	1
5.	The items are clear in wording and concisely stated	0	0	0	4	0

General Evaluation

1.	The items are appropriate for student self assessment	3	1	0	0	0
2.	The items relate to the philosophy and goals of the program	3	1	0	0	0
3.	The items are compatible with the learning objectives	3	0	0	1	0
4.	The items consider the process of PBL	2	1	0	1	0
5.	The items consider resources	4	0	0	0	0
6.	The items are reflective of shared responsibility for learning	4	0	0	0	0

Other General Comments:
(a) font size too small; (b) headings unclear; (c) confusing and overlapping; (d) nice work; (e) looks good; (f) double names; (g) add an N/A category; (h) here you go, good job; (i) scale confusing; (j) student names on form or anonymous?; (k) I don't understand the V.A.S. at the bottom, needs instructions on what the 0-5 stands for; (l) will this page be used or scan forms?; (m) using the words assessment and evaluation is redundant

Table 3 summarizes the open ended responses from the summative committee in relation to each four of the five specific evaluation forms, faculty evaluation form for course and lab, student evaluation form for course and lab; however no comments were received for the student clinical performance evaluation.

Table 3.

Specific Open Ended Comments for Evaluation form Item

Item Number	Recommendations and Comments
Faculty Team Assessment Form	
1	Add sessions to end of the item
10	Is it only appropriate for mentor?
11	Add when advisement was provided to the end; Not sure I like this-what if someone did not need help-why ask it?
12	Should read when appointments were scheduled; Delete N/A
Lab Faculty Assessment Form	
3	Don't necessarily understand; Is this question one they can really answer? Lab variety is directly due to their organization and decisions prior to class, they make the lab more or less varied, depending on what skills they choose to practice or learn about; Change this to lab activities are varied to meet the objectives;
9	Add lab activities are clinically relevant; Add applicable to clinical setting/experience
Student Self Assessment Course Form	
N/A	Add #1 and #7 from lab faculty eval form to this one
4	Change assess to appraise
5	Add assess and provide feedback for; Add gives constructive feedback; Change assess to appraise
Student Self Assessment Lab Form	
2	Change this to the
4	Would be N/A for first year students; Not appropriate for first year, how is this accounted for in outcome?

(table continues)

Item Number	Recommendations and Comments
5	Change study to studies; Are all these designed for individual or case study?
6	Not appropriate for first year, how is this accounted for in outcome?

The summative committee comments were all considered and all editorial type comments were accounted for in the item revisions. Some items were revised, others deleted, as suggested, and a few were added per recommendations of the summative committee. Other items which were controversial within the summative committee comments and item ratings, were left as developed, until the first dissemination of the evaluation forms, which served as a pilot for these debatable evaluation items. The suggestion to incorporate lab items into the course evaluation for students, was deemed inappropriate because these are two distinctly different types of evaluations, one for laboratory activities and one for course activities.

The recommendation to change verbiage from assess to appraise on several items was not incorporated because it was believed the item was more meaningful using language from the PT clinical decision making model, rather than introduce novel terminology. The pilot distribution of the evaluation addressed whether or not this was a viable option. The recommendation to add the verbiage to some items was negated, due to merely lengthening the item and hence the form, without increasing the ability to interpret the item criteria to any greater degree. However, some items were evaluating untapped criteria and therefore were included as new items. To account for the fact that some items were not necessarily appropriate for first year students, the option of having no feeling either way on the Likert

scale was a suitable choice, however some students with advanced experience or other appropriate career experiences were able to rate these items, therefore the items were maintained.

To develop the final product, these noted revisions were made and the product was formatted for a scannable computer evaluation form with the NSU academic support services. During the process of revisions, although font size was reduced significantly for the computer forms, it was necessary to split some items into two and sometimes three distinct items secondary to physical space limitations on the forms. This accounted for some items exceeding the recommended number of items for the evaluation forms. Evaluation forms were then proofread and final printing was completed. Forms were then presented to the PT Program Director and Associate Dean for final approval for implementation.

Chapter 5

DISCUSSION, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Discussion

The underlying problem addressed by this study was that the Nova Southeastern University Physical Therapy (NSU PT) curriculum had been altered from the traditional method to Problem Based Learning (PBL) and faculty and course evaluation forms required revision to reflect this change in androgogy. The results addressed this problem, providing a suitable and valid product of five evaluation forms for the various aspects of NSU PT PBL evaluation.

This project development and validation corroborated the findings of previous studies (Dolman et al, 1995, Eley & Stecher, 1997, Hay, 1996 and Schmidt & Moust, 1995), regarding content items and design for evaluation forms, and particularly PBL in the health care education arena. Similar to the evaluation of health sciences education programs by Schmidt et al. (1993), evaluation was validated as a shared responsibility and it was appropriate to include students in the evaluative process. Design types for evaluation matched those discussed by Eley and Stecher (1997), and although some items in this project were not initially well constructed, the importance of this aspect of item construction was discovered, as described by these authors and Davis (1993). Although it was impossible to incorporate all evaluation content criteria described in the research, the specifics provided by Banta et al. (1996), Hay (1996) and Astin (1991) were partially taken into consideration and affective, behavioral, psychomotor and a few cognitive items were validated in the development of this project.

Congruent with research by Schmidt & Moust (1995), utilizing similar content items

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and Likert scale evaluation measures for a PBL program, the project developed in like fashion. Other content item considerations, such as those identified by Hay (1996) for tutor roles, were correspondingly lengthy in comparison with this project. Hay ascertained 19 items for this one aspect of PBL evaluation, this project initially was lacking in this area per formative committee review. However, the final evaluation product for tutor roles, surmised 18 facilitator items for evaluation, addressing the formative committees concerns. However, one must consider the serendipity of this heightened number of criteria items, in light of the committee members involvement as tutors, compared with the other item numbers. In contrast to Hay's PBL PT evaluations, self-assessment was as predominant as tutor/faculty assessment in this final product. These results were influenced by of the research findings of May et al. (1995), survey of PT clinical educators to identify generic abilities, critically important to PT practice. These outcome abilities, notably, commitment to learning, interpersonal skills, communication skills, time management and effective use of resources, constructive feedback, problem-solving, professionalism, responsibility and critical thinking (May et al., 1995, p 4) were incorporated into the final product. These content considerations were also in agreement with the study by Des Marchais and Chaput (1997) who validated and identified 8 specific tutor tasks for evaluation.

However, this product is notably dissimilar from the focus groups and qualitative studies performed by Hadwin (1996). Although the depth of information gleaned from this type of research is enriching and valuable, this method of evaluation is not practical for a large number of students in this PT PBL program. Overall, the summative and formative committee feedback, was positive in nature, with constructive criticisms for redesign and editorial improvements.

Conclusions

Following implementation of the procedures for the project, appropriate and valid contents and design of faculty and course evaluation forms, that were representative of PBL for NSU PT, were developed. Both the formative and summative committees were knowledgeable about the PBL philosophy, however committee members may have been disadvantaged as this was a developing and novel curriculum. The committee input and feedback were invaluable to the product design and recommendations were made without reservation.

Implications

Faculty and course evaluation forms for the PBL PT program were developed for NSU PT students and faculty. It was expected that the evaluation forms would enable students to evaluate faculty and PT courses in a PBL curriculum. This form was expected to provide consumer feedback for improvement and development of the NSU PBL PT curriculum. Pilot testing and the actual consumer use of the product further addressed these potential product outcomes.

In terms of educational practice, the NSU PT department was able to utilize this evaluation form for accreditation requirements and curriculum design and development. The forms provided the opportunity for students to offer feedback for both self assessment and faculty evaluation in tutorial groups and laboratory learning. Future implications for longitudinal studies with the faculty and student evaluation forms and appropriate feedback, with regard to program progression, in meeting the overall curriculum objectives were indicated. West and Watson (1996) best summarized the process as follows:

> Student-centered learning and assessment is the resultant focus of this product. Such a customer driven focus enables faculty, with a well designed curriculum, to foster life

> long learning and self development. PBL necessitates that faculty amend and modify the curriculum in a rapid fashion to correlate with a dynamically changing external environment. Such activities encourage interdepartmental and interdisciplinary cultural milieus, creating positive energies for the faculty, student and business community. (p 8)

Recommendations

The recommendations, which follow, were made as a result of the evaluation forms project. It was recommended that the report be disseminated to all faculty and students, and the Commission on Accreditation of Physical Therapy Education (CAPTE) evaluation team, following review and approval by both the PT Program Director and Associate Dean.

It was recommended that the evaluation forms be implemented for the Fall semester, 1995, for NSU PBL PT. This recommendation was made by the researcher to the director. The director approved this recommendation and the forms were implemented by the researcher, following provision of an inservice, with faculty and students, for implementation of the evaluation forms. The Fall semester evaluation was completed, with the assistance of academic support services for NSU PT. This served as a pilot study, and revision of the forms from the pilot data, was completed by the researcher and director, with full implementation of the evaluation forms for NSU PBL PT in the Spring semester. These forms were made available, for CAPTE, during the on-site accreditation evaluation.

Further recommendations included, reviewing the evaluation forms for faculty and student development and longitudinal studies utilizing the product responses to track program progress yearly; and review of data on an on-going basis to identify and assess curriculum and learning gaps that may occur with students. The researcher made these recommendations to both the PT Program Director and Associate Dean for initial implementation for Spring 1995, with data collection assistance from academic support services. It was also recommended, that the use of this product be reevaluated, by the

director and faculty, following an academic year of implementation, as a portion of the curriculum review process. In addition, results should be shared with other PT faculty, by submission of this research abstract, by the researcher, for the national PT conference. Further exploration for the use of portfolios was also indicated as a result of the literature review. This researcher has been approved to complete this investigation, following discussion with the director and faculty curriculum committee.

Health care is presently a rapidly changing environment. This must be taken into consideration insofar as the needs for both the consumer and the student customer in health care education. West and Watson (1996) discussed the need for responsiveness to change, stating that educational programs must prepare themselves and their students to meet the challenge of change (p 2). If the evaluative process is optimized, evaluation instruments can be a springboard to creating strategies for success in new environments. Educators cannot predict the way in which health care will be provided in the future, yet we can teach how to solve problems within institutional frameworks. Therefore, the final recommendation provided, as a result of this study, was an evaluation of the results of this product to improve the educational program and these results serving as guide, or blueprint for further faculty and curriculum development. This recommendation was made by the researcher to the director, faculty and students for implementation. This process of review should be completed on an ongoing basis as part of program evaluation measures and as a portion of the yearly, curriculum retreat, review process each Summer semester, conducted with faculty and the director. It was recommended, to attain the faculty review portion of these suggestions, the peer faculty review committee complete this task, while assessing faculty annual reports each calendar year.

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APPENDIXES

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Appendix A

Nova Southeastern University (NSU) Mission Statement
(1995-96 Health Professions Division catalog)

NSU provides educational programs of distinction from prekindergarten through the doctoral level at times and in locations convenient to students, prepares students for leadership roles in business and the professions, encourages research and community service, and fosters an atmosphere of creativity and innovation utilizing technology where appropriate. Approved by the Board of Trustees, June 22, 1992.

NSU Health Professions Division Mission Statement

The mission of the Health Professions Division is to *train primary care health practitioners in a multi disciplinary setting, especially for under served areas.*

NSU Physical Therapy Program Mission Statement

The mission of the NSU Physical Therapy Program is to *prepare physical therapists as primary health care providers.*

Physical therapist as primary health care provider: a physical therapist who is the initial, first or principal care provider for the diagnosis and treatment of physical impairments, functional limitations and disabilities that result in movement dysfunction.

NSU Physical Therapy Program Philosophy

We believe the physical therapist--diagnoses, plans, treat and supervises care for physical impairments and disabilities that are the result of dysfunction of any body system, must be prepared to consider the influence of mind, body and spirit on health in order to prevent dysfunction and promote wellness, must anticipate the need for change in the profession and health care delivery, must contribute to the body of knowledge of physical therapy and be supportive of the collegial search for truth.

We believe the physical therapy profession--is committed to access to health care for all people, is essential to primary health care in order to meet the needs of the undeserved across their life spans in all strata of society, is dynamic and responsive to the health care demands of current society.

We believe that physical therapy education--demands a strong liberal arts foundation, including foreign language, to prepare physical therapists for leadership roles in a multi-cultural society, occurs best in a creative atmosphere that fosters exchange among faculty, students, and practitioners, who are all self-directed and able to function independently and in groups, occurs best when the roles of academic and clinical faculty are intertwined because they are equally vital to the learning process.

We believe that physical therapy faculty--must bring together a variety of academic, clinical, and life experiences which complement each other and are necessary to provide the depth and breadth of learning opportunities essential to the education of the generalist physical therapist or primary care practice.

We believe that physical therapy graduates--must be committed to serve the profession and society through contributions to the advancement of the profession in their search for new knowledge and skills as life-long learners and applied scientists, must be committed to serve the profession and society in a variety of roles such as primary care providers, consultants, advocates for the disabled and change agents.

NSU Physical Therapy Program Outcomes

Graduates will be able to--practice with integrity as generalists in primary health care in order to serve diverse populations of any age and cultural, socioeconomic, and educational status, participate in activities that insure personal and professional growth, communicate appropriately with any audience, practice ethically and legally in any health care setting, advocate for the disabled, serve as change agents in organizations, including legislative bodies, apply the principals of management and consultation in any practice setting to assure efficient and effective health care, participate in the development of knowledge that advances the profession, teach in any role, choose actions that reflect consideration for the consequences of their decisions.

Appendix B

Committee Members

Internal Formative Committee

Catherine Page, PhD, PT	NSU PT	Director & Associate Dean
Mary Blackinton, MS, PT	NSU PT	Assistant Professor
Leah Nof, PhD, PT	NSU PT	Professor
Ian Ross, MHS, MPT	NSU PT	Assistant Professor
Kathy Perry, PhD, PT	NSU PT	Professor

External Summative Committee

MaryJo Wisniewski, EdD, PT	Wheeling Jesuit College PT*	Director
Linda Woodruff, PhD, PT	North Georgia College PT	Director
Kelly Gowland, BHSc, PT	McMaster University PT	Director
Tom Zeller, MPT	Suncoast Rehabilitation, NSU Alumnus	Staff PT

*Programs in various stages of development seeking accreditation with either Candidacy status or application for Candidacy with Declaration of Intent submitted to American Physical Therapy Association (APTA).
(Programs are placed in this status when the APTA Department of Accreditation receives official notification of their intent to seek accreditation from the Commission on Accreditation of Physical Therapy Education.)

Appendix C

Formative Committee Questionnaire

PBL Faculty and Course Evaluation

1. What items do you consider appropriate for inclusion on faculty and course evaluation forms for utilization at the midterm and final portion of the semesters that reflects PBL?

2. What type of design do you consider most appropriate for faculty and course evaluation forms which will be reflective of PBL?

3. How many and what type of items should be included in faculty and course evaluations to reflect PBL in a PT curriculum with Master's level students?

4. Should more than one type of form be utilized to reflect PBL for faculty and course evaluations in a PT curriculum?

5. What type of evaluation/assessment scale should be utilized in the faculty and course evaluation forms to reflect PBL?

6. Are there any other considerations that need to be addressed in the faculty and course evaluation forms for PBL in a PT curriculum?

Thank you for your assistance!

Appendix D

Summative Committee Questionnaire

Please rate the items below as 5, 4, 3, 2 or 1. Please use the following rating scale:

5 = Strongly Agree 4 = Agree 3 = No opinion 2 = Disagree 1 = Strongly Disagree

Statement	Response				
Content					
1. The items included are appropriate for faculty evaluations	5	4	3	2	1
2. The items included are appropriate for course evaluations	5	4	3	2	1
3. The items consider advisement	5	4	3	2	1
4. The items consider interpersonal relationships for both faculty and students	5	4	3	2	1
5. The items consider instructional methods and styles for student and faculty	5	4	3	2	1
6. The items are representative of the process and structure of PBL for students and faculty	5	4	3	2	1
7. The items consider philosophy and knowledge for students and faculty	5	4	3	2	1
8. The items consider behavioral aspects for students and faculty	5	4	3	2	1
9. The items consider specific tutor roles	5	4	3	2	1
10. The items consider linkage to curriculum and life long learning	5	4	3	2	1
Design					
1. The Likert format is suitable for student and faculty evaluations	5	4	3	2	1
2. The Likert format is suitable for course evaluations	5	4	3	2	1
3. The length of the forms is appropriate	5	4	3	2	1
4. The items provide an opportunity for open ended responses	5	4	3	2	1
5. The items are clear in wording and concisely stated	5	4	3	2	1
General Evaluation					
1. The items are appropriate for student self assessment	5	4	3	2	1
2. The items relate to the philosophy and goals of the program	5	4	3	2	1
3. The items are compatible with the learning objectives	5	4	3	2	1
4. The items consider the process of PBL	5	4	3	2	1
5. The items consider resources	5	4	3	2	1
6. The items are reflective of shared responsibility for learning	5	4	3	2	1

Other Comments:

Thank you for your assistance!

Appendix E

Evaluation Forms Product

1. **Faculty Team Facilitator Course Evaluation**
2. **Laboratory Faculty Evaluation**
3. **Course (Student Self-Assessment) Evaluation**
4. **Laboratory (Student Self-Assessment) Evaluation**
5. **Student Performance - Clinic Evaluation**

NSU Health Professions Division
Office of Educational Development

College of Allied Health
Physical Therapy Department
Faculty Team Facilitator Course Evaluation

Team facilitator: _____

Course Name & Number: _____

Date: _____

SPECIAL CODES

—DO NOT FILL IN—

GENERAL PURPOSE DATA SHEET II
form no. 70921

USE NO. 2 PENCIL ONLY

I STRONGLY AGREE. 5

I AGREE. 4

I HAVE NO FEELING EITHER WAY. 3

I DISAGREE. 2

I STRONGLY DISAGREE. 1

1. Shows respect for students during the tutorial.
2. Respects alternate opinions that are adequately evidence-based.
3. Encourages students to cite and evaluate information sources.
4. Consistently provides helpful feedback to group and individuals.
5. Provides a reasonable degree of student autonomy in managing group dynamics.
6. Provides a reasonable degree of student autonomy in allocating tutorial time and learning tasks.
7. Provides clear instructions regarding procedures used during the tutorial session.
8. Remains focused on the topic and on group interactions during the tutorial period.
9. Expects students to locate and evaluate information.
10. Relationship of classroom activities to learning objectives is clear.
11. Relationship of examination items to course objectives is clear.

(DO NOT BUBBLE THIS LINE)

13. Provided helpful feedback on overall curriculum performance progress.
14. Helped me manage my life rather than attempting to manage for me when advisement was provided.
15. Is a good professional role model.
16. Available and approachable to students.
17. Your perception of your benefit from the interaction with your team leader.
18. Other faculty in the department is available and approachable.

COMMENTS:

Please write additional comments on the back of this form.

BEST COPY AVAILABLE

ID NUMBER	SPECIAL CODES
	A B C D E F G H I J

NSU Health Professions Division
Office of Educational Development

College of Allied Health
Physical Therapy Department
Laboratory Faculty Evaluation

Faculty Team facilitator: _____

Course Name & Number: _____

Date: _____

GENERAL PURPOSE DATA SHEET II
form no. 70921

USE NO. 2 PENCIL ONLY

I STRONGLY AGREE.	E
I AGREE.	D
I HAVE NO FEELING EITHER WAY.	C
I DISAGREE.	B
I STRONGLY DISAGREE.	A

1. Relationship of laboratory activities to learning objectives is clear.
2. Laboratory activities are appropriately challenging.
3. Laboratory activities are varied to meet objectives.
4. Faculty Facilitator is available for facilitation in laboratory experiences.
5. Faculty Facilitator is effective in facilitating laboratory experiences.
6. Provides helpful feedback on laboratory checkouts.
7. Laboratory instructors and assistants were prepared for the sessions, and worked together well.
8. Relationship of examination items to course objectives is clear.
9. Laboratory activities are clinically relevant.

COMMENTS:

Please write additional comments on the back of this form.

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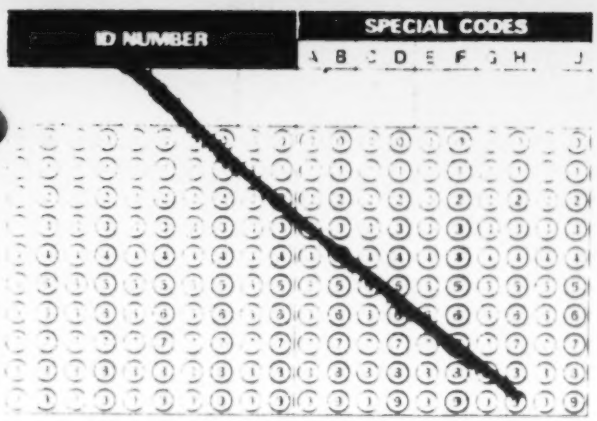

GENERAL PURPOSE DATA SHEET II
form no. 70921

USE NO. 2 PENCIL ONLY

NSU Health Professions Division
Office of Educational Development

College of Allied Health
Physical Therapy Department
Course (Student Self-Assessment) Evaluation

Faculty Team facilitator: _____

Course Name & Number: _____

Date: _____

I STRONGLY AGREE. E

I AGREE. D

I HAVE NO FEELING EITHER WAY. C

I DISAGREE. B

I STRONGLY DISAGREE. A

1. I am confident that I can identify major topics to determine the additional information needed.
2. I am confident that I can analyze cases to determine the additional information needed.
3. I am confident that I can identify appropriate sources for the needed information.
4. I am confident in my ability to function as a member of a tutorial group.
5. I am confident in my ability to assess my own strengths and weaknesses and needs for improvement.
6. I am confident in my ability to assess my peers' strengths and weaknesses.
7. I am confident in my ability to provide constructive feedback for my peers.
8. I am confident in my ability to present to my peers' their need for improvement.
9. I am confident that I can use the information from self and peer evaluations to modify my professional behavior.
10. I am confident that I can use the information from self and peer evaluations to modify my skills.
11. I am confident in my ability to integrate ideas learned in case studies and apply them to other cases.

COMMENTS:

Please write additional comments on the back of this form.

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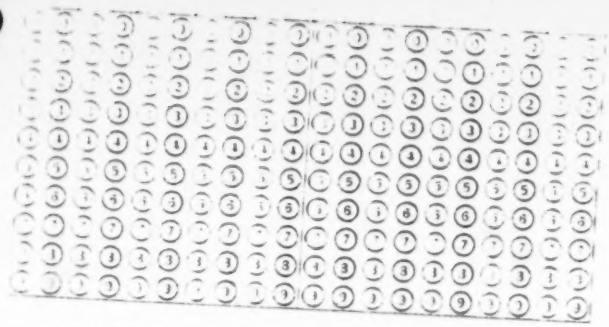
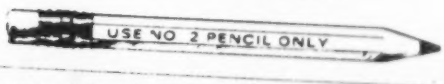


GENERAL PURPOSE DATA SHEET II
form no. 70921



NSU Health Professions Division
Office of Educational Development

College of Allied Health
Physical Therapy Department
Laboratory (Student Self Assessment) Evaluation

Faculty Team facilitator: _____

Course Name & Number: _____

Date: _____

I STRONGLY AGREE. E

I AGREE. D

I HAVE NO FEELING EITHER WAY. C

I DISAGREE. B

I STRONGLY DISAGREE. A

1. I am confident that I can perform the psychomotor skills learned in this laboratory in a clinical setting.
2. I am confident that I can interpret the findings from the evaluation skills learned in the laboratory.
3. I am confident that I can select appropriate evaluation tools for patient cases.
4. I am confident that I can use the skills learned in the laboratory to design appropriate treatment programs.
5. I am confident I can prioritize the necessary assessments or interventions based upon the case studies.
6. I am confident that I can use the skills learned in the laboratory to implement treatment programs.
7. I am confident I can integrate and incorporate previous knowledge for patient cases.

COMMENTS:

Please write additional comments on the back of this form.

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NSU Health Professions Division
Office of Educational Development

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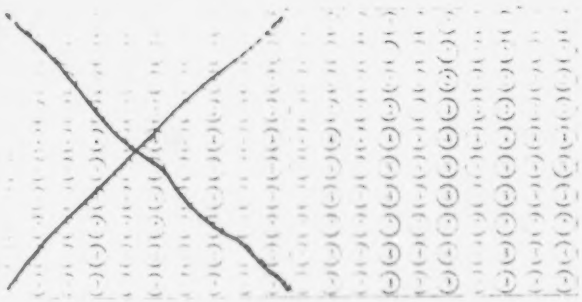

GENERAL PURPOSE DATA SHEET II
form no. 70921

USE NO. 2 PENCIL ONLY

College of Allied Health
Physical Therapy Department
NSU Clinic Evaluation
Student Performance

Faculty Team facilitator: _____

Course Name & Number: _____

Date: _____

I STRONGLY AGREE. 5

I AGREE. 4

I HAVE NO FEELING EITHER WAY. C

I DISAGREE. 3

I STRONGLY DISAGREE. A

1. Student demonstrated professional behavior.
2. Initial assessment is appropriate (flow, relevance).
3. Treatment plan and goals are appropriate.
4. Performance of treatment is appropriate.
5. Student progresses assessment and treatment in a logical manner.
6. Student demonstrates appropriate interaction with staff.
7. Student has good rapport with patients.
8. Student demonstrates critical thinking during evaluation and treatment.
9. Student demonstrates appropriate patient positioning and draping.
10. Set-up and clean-up of treatment area are appropriate.

COMMENTS:

Please write additional comments on the back of this form.

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